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AUTHOR Bretherton, Diane
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ABSTRACT

A record-keeping system based on Piagetian process categories plus guidelines for keeping records are provided as a practical starting point for teachers and students in training who are working in Piagetian preschool programs. Reasons for keeping individual records, the characteristics of good records, assumptions of the cognitively oriented preschool program, and the ways records can reflect a cognitive orientation are discussed. Techniques for observing children, recording qualitative data, and summarizing data are briefly explored, and a checklist for assessing record-keeping practices is provided. Also presented are a record-keeping system involving the accumulation of qualitative data, a summary sheet which records background information and teacher ratings of the developmental performance of children on a total of 20 scales, and an end-of-year review. Instructions for completing the summary-sheet items and codes, and instructions for teacher ratings are provided for the areas of play, autonomy, concentration, properties of objects, classification and seriation, space and time, number concepts, moral reasoning, social knowledge, receptive and expressive language, language use, physical status, gross and fine motor development, visual and auditory perception, self-concept, emotional feelings, and social interaction. Instructions for the annual review of individual records and guidelines for implementing the system complete the document. (Author/RH)

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A System for Keeping Individual Records in the Piagetian PreSchool Programme

Dr. Diane Bretherton

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Institute of
Early Childhood Development
4 Madden Grove, Kew, 3101

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A SYSTEM FOR KEEPING INDIVIDUAL RECORDS IN THE PIAGETIAN PRESCHOOL PROGRAMME.

Diane Bretherton
1981

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INTRODUCTION

My concern with record keeping systems in the preschool arose from the observation that student teachers were using an older record keeping system which did not match the Piagetian process categories that they used for programme planning. To develop a record keeping system is not a simple task for a student, so I set out to provide a system which could be a starting point for practice, and some guidelines for keeping records which could be a framework for modifying the system.

There has been a demand for the unpublished report on this project (Bretherton 1980) from preschool teachers in the field. The current paper was produced to make the material available to this more general readership. It needs to be stressed that the system is meant to be a practical starting point, not a final product, and that it is meant to be adapted to specific situations, within the criteria set out for modification of the system.

RATIONALE

Reasons for keeping individual records

If we believe a teacher should have detailed knowledge of children's development, and should base his or her teaching on this knowledge of each child, then it is consistent to require the keeping of individual records of children's development.

Good individual records help the teacher to plan. For example, a system of record keeping such as a teacher journal of the events of the day, which does not systematically focus on each child, may come to focus on the children she finds most troublesome. In situations where teachers do not keep individual records the quiet child may be overlooked.

Good individual records also help the teacher to evaluate his or her own programme. If the goal of the teacher is to facilitate each child's development, then the teacher needs some record of each child's development to evaluate his or her own programme.

The teacher needs to be able to communicate with the child's parents, and with other professional people, about the child's progress and current developmental level. Good individual records help in this task.

The Characteristics of good records

Good records should contain information teacher needs and should not contain information teacher doesn't need. Records should contain information for planning and evaluation, but should not contain superfluous information. That is, the teacher needs to make judgements about what is worth recording. There are many tasks that need to be done by a teacher and he or she needs to be selective as to how much energy is invested in each task. Some beginning teachers are so concientious about their paper work that energy that should go into working with children is channeled into recording information which will not be used in any meaningful way. The aim of record keeping is to improve teaching, not to detract from it.

Good records should not contain information which violates family confidentiality or prejudices the child. Information such as "Mr. Jones, the father, has a criminal record" must be kept confidential and is better not written into records which will be used for planning programmes, and may be left lying around the office. The information does not help in programming for the child in a specific way. Records which label a child may similarly prejudice his or her interests. For example, I taught one child whose record came to me from a prior grade with an entry "IQ 57". As there was no reference to what test was used, who tested the child and so on, the result was without real meaning. This could be to the child's detriment. Similarly if the kindergarten child is labelled "hyperactive" without reference to who thinks the child is atypical, what evidence the judgement is based on, then this is not in the best interest of the child.

Information in records should be in categories which have theoretical underpinning and practical value. There is an infinite amount of information that can be gathered about a child and a choice must be made as to what attributes will be most usefully observed and recorded. The judgement will be made in terms of the teachers philosophy. The teacher working within a cognitive - interactionist model will be interested in the child's cognitive processes. The behaviourally oriented teacher will be concerned to record overt behaviour change. The humanistic educator will be more concerned with the child's feelings and relationships with others. What is essential information to one of these teachers is superflous information to another. While this paper deals with record keeping in the cognitive-interactionist framework, there is no claim that this is the only valid framework.

The cognitively oriented preschool programme.

The cognitively oriented preschool programme is based on the following ideas, drawn from Piaget, Kolberg and Damon.

Human beings develop through a predictable sequence of stages. These stages are universal to human beings and apply across cultures.

The learner passes through a number of stages in his thinking, such that the child has a different cognitive map of the world than does the adult.

The higher stage is "better" than the lower one in that it contains the gains of the earlier stages and reintegrates them into a higher order.

Knowledge is of three types: physical, social and logico-mathematical. The child acquires physical knowledge through interacting with the environment. Social knowledge is that body of knowledge which is learnt through cultural transmission. Logico-mathematical knowledge concerns an understanding of the relationships between things and is hence more difficult to teach.

We can delineate conditions which facilitate development from one stage to another.

The function of the teacher is to facilitate development and the acquisition of knowledge by

a) providing an environment which allows the child opportunities to explore the physical world (physical knowledge)

b) providing the child with information about the world that is appropriate to the child's interests and level of understanding (social knowledge)

c) providing the child with an environment which exercises and challenges the child's thinking.

The teacher exercises developing potentials by:
a) providing activities at the child's level
b) extending the range of activities. For example, the child can conserve in some situations, with some materials, so the teacher presents tasks which require him to do so under other circumstances.

The teacher challenges the child's thinking by:

a) posing problems which can be solved in alternate ways. For example, on an excursion; how can we get there? What types of public transport?

b) helping children become aware of different perspectives. For example, through role play, discussion of conflict.

c) providing information which challenges children's perspectives. For example, child says "men don't cry" and the teacher responds "my father cried when my mother died".

The teacher must be aware of matching the children's level of development. Too high a level of discourse will pass over children's heads, too low a level will fail to extend their thinking.

The cognitively oriented preschool teacher has, then, a primary interest in how the child thinks about his or her world. The teacher will be concerned about long term development rather than day to day progress. Indeed, the child does not continually demonstrate the extent of his reasoning ability to an outside observer. Rather, the teacher will build up a picture over time.

The type of information that the cognitively oriented preschool teacher will be interested in relates to both the content and the structure of the child's thinking i.e. the what and the how.

How records reflect the cognitive orientation

As was suggested above, the theoretical framework of the teacher determines what is considered to be important and worth observing and recording. Kolberg and Mayer (1972) contrast the maturation and cultural transmission models of education. The maturation approach tends to focus on children's development without teacher intervention and here there would be stress on observing children's physical and emotional well being. The cultural transmission model values those things that need to be passed on to children, the "curriculum content" areas. The teacher would be interested to find out at the beginning of the year what children know, or rather, do not know, to see what he or she has to teach them then at the end of the year she could retest the children to check that they have learnt the things they didn't know. Do they know colours? Can they count?, and so on.

Records for the cognitively oriented preschool programme should

a) not be too detailed and time consuming, all preschool children should be at the preoperational stage, so we can begin with some ideas as to what will be suitable activities. Remember that human development has a universal aspect as well as an individual one.

b) detail cognitive processes, that is, not just what children think about, but also how they think about the world, their reasoning processes.

c) emphasize cognitive development. If we are interested in how children think about the world then our records should deal with this. I personally do not think this means other aspects of development should be entirely excluded. There is a close interrelationship between the different aspects of development and breaking the child's development up into different aspects is simply a conceptual convenience. For example the child uses reasoning to cope with social as well as physical situations. Language and thought are closely interlinked. The child who is physically well co-ordinated and confident is able to explore the physical world more adequately than an incapacitated child and hence is better equipped to gain knowledge about the physical world.

There are certain values attached to the cognitively oriented model which should be reflected in records. Some are in the cognitive area, others overlap with personality traits. For example, we would like the child to be an active learner, autonomous, curious, open minded and able to consider alternative solutions, inclined to perform activities for intrinsic rather than extrinsic motivations, and able to apply intelligence to a variety of real life situations.

OBSERVATION AND RECORDING TECHNIQUES

Observing children and recording qualitative data.

Qualitative data about the child might be in the form of simple descriptions, running records, video and audio tapes, films or photographs and anecdotes. This data may be structured or organized in a variety of ways.

We can keep a record of children's behaviour by describing in words what we observed. This is a qualitative description. In doing this we try to be as objective as possible, describing the overt behaviour, rather thean interpreting this behaviour.
For example, compare

2/3/81 John poured water from the container into a glass without spilling any, said "I poured it all".

with

24/7/81 Mark behaved in an aggressive manner.

The observation of 2/3 is a better observation than that of the 24/7 because it is more objective. We know more fully what John actually did in a specific and concrete way. We do not know, however, what acts the recorder considers to be aggressive and can only make guessses as to what Mark actually did. Note that observations should always be dated.

Fairly objective forms of keeping records of behaviour include running records, where the observer notes what the child is doing as it actually occurs, video tape or film records, or audio tape recording.

These forms of recording are not a completely objective reflection of reality but are selective. We notice and record things that seem important to us. For example in the observation of John on 2/3 we did not note whether he was sitting or standing, alone or in a group, was sniffing or used his handkerchief, what he was wearing, and so on. When we select audio rather than video tapes we are selecting sound as the most appropriate feature to focus on, when we use video tapes we follow some part of the visual field to the exclusion of other parts. Hence, recording techniques involve an element of judgement about what is important and what is not important, about what we will look at or listen to and what we will ignore, even when we try to be very objective.

Anecdotal records are less objective in that they may be jotted down after the event. The loss of objectivity may, however, be balanced by increased meaning. Anecdotes may give a picture of more complex social situations or illustrate underlying attitudes, e.g. if we are told that:-

> 4/3/81 Susan stood and watched Mark as he played in the block corner. Mark jumped up and pushed her in the face

and other similar tales, we may begin to agree that Mark is rather aggressive in manner.

A simple structure for ordering qualitative data is a journal. Here the framework is chronological and events are ordered in terms of temporal sequence. The teacher may sit down at the end of the day and write down the events of the day entered under the date.

Further differentiation occurs if the teacher puts his or her entries under the names of individual children classified under specific categories. For example, the teacher might enter events under headings like "cognitive", "perceptual-motor", "endeavour" as in the IRB system (see appendix I) used at I.E.C.D. On the other hand different categories could be used to order data. e.g. the Piagetian based programme might use categories such as "representation", "seriation". Data is categorized by date of event, by individual child and by categories of developmental area.

Each method of ordering qualitative data has its advantages and disadvantages.

The teacher who records by date in a global journal:-

a) probably has a good overall view of group functioning.

b) is not fragmenting information too much.

c) doesn't spend too long on record keeping but

d) will be influenced by structures which are implicit and unconcious rather than explicit and conciously chosen. For example, does her diary may dwell on the vivid events and will be relatively subjective.

The teacher who uses diary entries under individual children's names will:-

a) spend more time on record keeping, for example he or she will spend time locating individual files.

b) need to make decisions about what to enter where. For example, consider the interaction between Mark and Susan on 4/3 described above. Does this get recorded under Mark, under Susan, or both?

c) needs to have some system giving guidance on who to observe when, as he or she cannot enter up 50 children's records every night.

but

d) has individual progress of children conveniently recorded.

The teacher who goes the further step and enters diary under categories by individual children will:-

a) spend even more time on record keeping.

b) need to make decisions about where to place information between categories as well as between children. For example the observation of John pouring water on 2/3 may be classified under "co-ordination", "cognition", "language".

c) needs a system of sampling which children to observe.

d) needs a system of sampling which categories of behaviour are to be observed

but

e) has a great deal of information about each child ordered in convenient categories.

In deciding which system to use the teacher will need to consider:-

a) her knowledge of child development. Keeping more extensive records may be necessary for the inexperienced teacher.

b) the number of children she is working with. Working with individuals or small groups obviously lends itself to more extensive record keeping.

c) her philosophy of teaching. The teacher who claims to work with individual children has a responsibility to keep some form of individual record, but the experienced teacher working with large groups needs only a brief record.

Summarizing data.

In observing childrens behaviour we are usually interested in going beyond what is observable to some underlying variable, e.g. "knowledge", "attitude", i.e. we see the behaviour as a manifestation of some underlying construct. When we summarize qualitative data we use some form of measuring these underlying constructs.

To understand what is involved in measuring psychological variables we can look to Coomb's (1953) general theory of data. He suggests there are two broad aspects to measurement. On the one hand there is an abstract or formal system of elements with certain properties or relationships. On the other hand there is the domain of observable things or objects with its properties and relationships. Measurement is the process of mapping the real object system into one of the abstract formal systems. In this way operations can be performed in the abstract system to give information about the relations holding in the real object system. The data must fit the model if the operations in the abstract system are to be applicable to be object system.

The simplest form of measurement is the nominal scale. The data are mapped into classes represented by symbols, e.g. the children are divided into boys and girls, or according to place of birth.

Sometimes a higher relationship than simply "different from" can be found among the objects. It may be possible to say that one class possesses more of an attribute than another. That is, the relationship "greater than" may hold. If this relationship holds between all classes an ordinal scale exists, e.g. one child can be said to be at a higher stage of development than another.

If the scale contains information about the magnitude of intervals between classes then an interval scale exists. Objects can be assigned numbers and differences between scale values may be operated on arithmetically.

If the scale, in addition, possesses an absolute zero then it is termed a ratio scale.

Each level of measurement is successively more powerful, but a higher level of measurement does not always fit the data. We need to ensure match between data and abstract model.

In observing behaviour in kindergarten we can summarize data into nominal scales. For example, categorization of data into classes in the IRB is a form of nominal scaling.

We can use frequency counts within classes of behaviour. Instead of describing each aggressive act Mark carries out for example, we might first describe the rules for deciding which acts are to be classified as aggressive, and then note the frequency with which such acts occur, generating a ratio scale.

We frequently use ordinal scales to describe child's development, e.g. Butler, Gotts and Cuisenberry outline 5 levels of development. We can say child at level 2 is more developed than a child at level 1, but cannot say such a child is twice as developed.

Commercially available scales to summarize data do not always use the right level of measurement, that is, the one that matches the data. Hence, the teacher needs to have a critical attitude and be wary about hidden assumptions.

Similarly, examples of record keeping in the preschool do not always show construct validity. That is, the behaviour does not actually illustrate the underlying attribute it purports to illustrate. For example, the observation of John 2/3 should be placed under motor skills, or language but not under conservation. The fact that he can pour water from one container to another does not illustrate that he knows the quantity of water is unchanged.

A SYSTEM FOR KEEPING INDIVIDUAL RECORDS

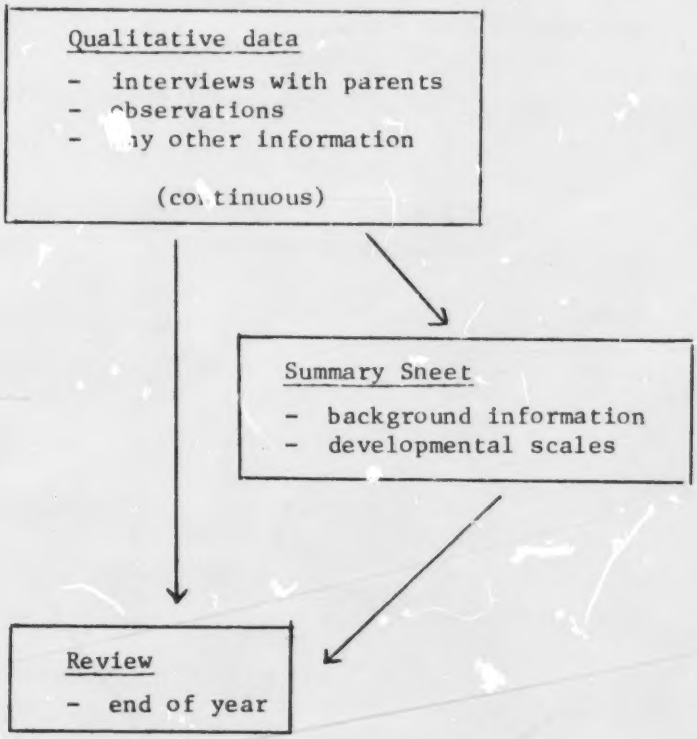
Need for a system.

Having read this far you should now be ready to consider your own record keeping system, to see if it meets the criteria for good record keeping, or needs more work. The following checklist might help you to decide if it is time to introduce some changes.

	Yes	No
I keep records of individual children's progress.	....	....
I use these records to help me plan my programme.	....	....
I use these records to help me evaluate my programme.	....	....
I use these records to communicate with other professionals and parents about the child's progress.	....	....
My records do not contain superfluous information.	....	....
My records do not violate family confidentiality.	....	....
My records do not arbitrarily label children.	....	....
When I record data I use categories that have theoretical meaning.	....	....
I use observations which have construct validity within these categories.	....	....
I use techniques of recording data which are metrically sound i.e. match the level of data.	....	....
I would like to work towards a more effective record keeping system.	....	....

Description of the System.

A flexible record keeping system can be developed by having a three level data system which can be shown as follows.



Individual children are allotted a file each to contain such data as has been/will be collected. This data may include -

i) qualitative observations e.g. anecdotal, running records, IRB, Piagetian categories

ii) tapes

iii) frequency counts of specific types of behaviour

iv) protocols of any tests that children are given

v) dated samples of work, or records of work, e.g. sketch of block construction

vi) material from interviews with parents

vii) reports from other professionals.

In addition, each child is alloted a summary sheet, which gives an overview of the child's development. This could be stapled to the front of the file for easy reference. A sample summary sheet is as follows:-

SUMMARY SHEET

NAME: .....

DATE OF ENTRY INTO KINDERGARTEN: .....

AGE AT ENTRY: .....

PRIMARY LANGUAGE: .....

MOTHER'S OCCUPATION: .....

FATHER'S OCCUPATION: .....

SIBLINGS: .....

ANY SPECIAL NEEDS: .....

HANDEDNESS: .....

	SCALES	Term 1	Term 2	Term 3	Comments
COGNITIVE DEVELOPMENT	1. Play				
	2. Autonomy				
	3. Concentration				
	4. Properties of objects				
	5. Classification and seriation				
	6. Number concepts				
	7. Space and time				
	8. Moral reasoning				
	9. Social knowledge				
LANGUAGE DEVELOPMENT	10. Receptive				
	11. Expressive				
	12. Language use				
PHYSICAL DEVELOPMENT	13. Physical status				
	14. Gross motor				
	15. Fine motor				
	16. Visual				
	17. Auditory				
SOCIAL AND EMOTIONAL DEVELOPMENT	18. Self - Concept				
	19. Feelings				
	20. Interaction				

REVIEW:

Instructions for completing summary sheet items

Information from Parents

DATE AND AGE OF ENTRY INTO KINDERGARTEN: age is an important variable. Be careful not to label child "immature" when he is in fact younger than others in the group.

PRIMARY LANGUAGE: is child learning English as a second language? Note child's cultural background.

MOTHER'S OCCUPATION: is mother working at home? Occupation also gives a clue as to educational level, soio-economic background.

FATHER'S OCCUPATION: see mother's occupation.

SIBLINGS: Note name and age of siblings so you have knowledge of family structure. This is also useful in chatting to parents, asking how the children are getting on is a safe conversation starter.

ANY SPECIAL NEEDS: child may have special needs arising from physical or psychological area. Note if child needs to take regular medication, cannot undertake certain activities, or is suffering stress from family problems such as recent death of a parent. However, be careful of labelling children. "Behaviour problem due to broken home" could become a self fulfilling prophecy.

Information from Observations

HANDEDNESS: assessment of handedness should be on the bases of watching the child perform one handed skilled activities such as:

drawing or writing
painting
hammering
taking object out of container
manipulating small block or puzzle piece
wiping table
cutting with scissors
throwing small ball.

At least 5 actions (including drawing or writing) should be observed and noted. Observation should be recorded "right", "left" or "both". If "both" note any tendency to one or other hand. Repeat observations each term.

INSTRUCTIONS FOR SCALES

The following symbols are used for the scales:

O the child is developing well, and mastering the tasks one would expect him to master at kindergarten.

Λ the child is developing beyond our expectations of the normal preschool child.

V the child has the minimum level of development to function satisfactorily in the preschool environment, but this is not a strength.

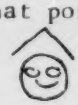
T the child's development is such that the teacher feels concern. This category is coded T for teacher to indicate the teacher has a problem. The child may not benefit from the normal programme and the teacher may have to take steps to find out what can be done. e.g. contact parents.

The coding symbols should be easy to master as they are based on a visual image (many coding systems break down as the categories are too difficult to remember).

The circle is a happy faced, normal kindergarten child

(or OK) simplified to O.

Above the norm, he or she gets a hat pointing upwards

or an arrow ↑ simplified to Λ. 

Below the norm the child gets an upside down hat

or an arrow ↓ simplified to V.

T is for teacher's headache and worry.

Further categories can be developed by using double, or even treble, symbols to indicate an increased degree of deviation. That is ΛΛ for very advanced or VV for very slow development.

The following more specific instructions are intended as guides. You will, in using them scales, be influenced by your group and tend to rate a child in terms of your group level rather than an absolute standard.

1. PLAY

Λ child shows highly developed intellectual abilities in play, is imaginative and creative.

O child learns through play, play has social elements though much of it may be parallel, play is at symbollic level and is exploratory.

V child's play is more at sensori-motor rather than symbollic level, play is restricted to particular areas.

T child's play is solitary and sensori-motor. Teacher will need to give special attention to child's intellectual development.

2. AUTONOMY

Λ child is highly independent.

O child is able to organize self, initiate activities, does things for intrinsic rather than extrinsic motivation, has adaquate self-help skills.

V child needs a lot of adult supervision, is not wanted by extrinsic rewards and attention, has inadaquate self-help skills, e.g. needs help with toilet.

T child needs constant adult assistance and supervision.

3. CONCENTRATION

Λ child has long concentration span, e.g. might spend whole session completing one activity in detail/can return to activity after interruption.

O child has ability to concentrate on activity and bring it to completion.

V child has difficulty concentrating for any length of time.

T child has very short concentration span, flits from one thing to another without completing anything.

4. PROPERTIES OF OBJECTS

A can make predictions about whether objects will sink or float, conserve quantity as in Piagetian tasks involving plasticine. water pouring, use hierarchical classification.

O can classify by colour, size, weight, distinguish hard/soft.

V can match objects by colour, size, "show me the one that is the same".

T does not understand concept same vs. different.

5. CLASSIFICATION AND SERIATION

A advanced grasp of structures, responds to "give me the small green triangle", applies skills across wide variety of materials.

O uses classification and seriation to structure thinking in practical situation, concepts such as little-big, smaller-bigger.

V can perform simple tasks such as nodding, shaking head to question "are these the same".

T does not understand concept same versus different.

6. SPACE AND TIME

A knows days of week, can answer, e.g. what day will it be tomorrow, can draw ground plan of outdoor equipment, tells time.

O can answer "Is it night time or day time?" correctly. Can find way around room. Has concepts such as under, over, tall, small, next to, as demonstrated, e.g. in movement class. Knows clocks tell time.

V is hampered by poor spatial relations, e.g. trouble locating activity areas in room, copying simple movements.

T does not recognize own image in mirror, doesn't understand simple relationships such as "stand next to Mary".

7. NUMBER CONCEPTS

Λ conserves number, e.g. Piagetian task of spreading counters with about 10 counters, counts out 20+ objects.

O can differentiate between few and many, use one to one correspondence to e.g. set out milk cups and bowls, count out about 5 objects.

V has difficulty completing practical tasks involving number concepts.

T does not apply.

8. MORAL REASONING

Λ child is concerned with equality, fairness, believes everyone should rigidly get the same amount.

O is moving beyond confusion of "I want" and "I should have" and justifies own desires in terms of quasi-objective criterion, e.g. I should have more ice cream because I am a girl. This is level O-B on Damon's (1977) scale p. 75.

V is totally egocentric in moral reasoning, reasons simply assert choices.

T not applicable, i.e. kindergarten teacher needs to realize that a particular child cannot be seen as "immoral" as all but the exceptional child are at a "pre-moral" stage.

9. SOCIAL KNOWLEDGE (i.e. in Piagetian sense, knowledge we gain from other people)

Λ child has extensive knowledge, e.g. can discuss prehistoric animals, affairs in other countries, how a particular product is manufactured.

O child has general knowledge appropriate to his age and background, e.g. knows his own name and family members, basic colours, simple traffic rules, function of policeman, postman.

V child has poor general knowledge.

T child has extremely limited general knowledge.

10. RECEPTIVE LANGUAGE

Λ understands lengthy accounts at purely verbal level, e.g. on tape.

O understands simple commands and instructions, follows meaning of stories and rhymes.

V understands simple commands and instructions in context supported by non-verbal clues.

T doesn't understand simple commands in own language, doesn't follow gesture.

11. EXPRESSIVE LANGUAGE

Λ able to hold long conversation, complex sentence structure.

O knows name and some ryhmes, can relate experiences, speech can be understood, uses adjectives and adverbs, pronouns, plurals, past tense, wide vocabulary of nouns and verbs.

V uses nouns and verbs to form telegraphic sentences. e.g. dog run.

T speech is unintelligable, does not use primary language to express simple needs.

12. LANGUAGE USE

Λ uses language for logical reasoning, predicting and projecting. See J. Tough (1976) p. 86.

O uses language for self-maintaining, directing, and reporting. See J. Tough (1976) p. 82.

V minimal language use for self maintenance, directing and reporting. See J. Tough (1976) p. 84.

T does not use primary language to communicate.

13. PHYSICAL STATUS

A child is outstanding physical specimen of human race, vibrantly healthy, athletic or otherwise particularly suited to some physical pursuit.

O height, weight, bodily proportions are within normal range, child appears healthy, has good posture.

V child appears underwight or overweight, has poor posture.

T child seems undernourished, has some physical abnormality or otherwise give cause for concern.

14. GROSS-MOTOR

A can balance on either foot, use musical rhythm, walk backwards, dress himself except for tying shoes. (Butler, Gotts & Quisenberry (1975) Levels IV & V p. 46)

O can run without falling, climb, jump from the second step of a stairway, walk along a straight line heel to toe, walk on tip toe, pedal a tricycle, kick a large ball (Butler, Gotts & Quisenberry (1975) Level III p. 46)

V poor co-ordination. (Butler, Gotts and Quisenberry (1975) Level II p. 46).

T very poor co-ordination, i.e. cannot run without falling or tripping over, places both feet on step before proceeding and must hold rail.

15. FINE MOTOR

A can spread butter on bread, copy cross, square, print his first name, can follow an outline when cutting with scissors.

O can use fingers to grip pencil or crayon, experiments with vertical and horizontal lines and circular motions. Can copy line, circle, carry breakable object without accident, use scissors, string beads, beginning to draw recognizable person.

V clutches pencil or crayon in fist, a bit clumsy with activities requiring fine motor skills.

T poor fine motor control interferes with drawing, handling eating utensils, using puzzle pieces, scissors and other activities in the preschool.

16. VISUAL

Λ can track moving object on fast, complicated path (e.g. loops), names and describes drawings before production, can describe or discuss an object or picture from memory, prefers complexity and fine detail in pictures.

O can track moving object with eyes, can copy +, names object that is drawing, painting (though art work may not resemble object to adult eyes) shows interest in visual details, can name missing part of picture, can describe and discuss a picture or object.

V cannot follow smoothly moving target without loosing it, cannot match or name primary colours, not interested in representational aspect of painting, can label objects in picture but not talk about them further.

T teacher is concerned about child's vision.

17. AUDITORY

Λ child shows marked facility in recognizing sounds, e.g. can make fine discriminations in pitch, recall complex sequences of sound. Child shows marked interest in listening to music, can play an instrument.

O child listens to stories, rhymes, can clap syllables of name or copy simple rythm in clapping and stamping. Child differentiates pitch (e.g. in movement stretches high on high sound, lower on lower sound) can guess source of some sounds from the environment on tape recorder.

V child doesn't listen to stories, rhymes, cannot clap simple rhythm, recognize common sounds.

T teacher suspects child has a hearing problem.

18. SELF-CONCEPT

Λ child has very positive self-concept, can stick to own ideas in face of social pressures, risk being different.

O child has positive self-concept, normally approaches environment and other people with confidence, is not shattered by criticism, has a sense of self worth and evaluates own efforts realistically.

V child has negative self-concept, lacks confidence, is over-sensitive to criticism, sets unrealistically high goals for self, is self effacing and denigrating. Remember that child may, in objective terms, achieve very highly and still feel unworthy.

T child has very poor self-concept, perhaps he won't attempt things in case he fails or covers up ignorance by bluster and boasting. If child falls in this category teacher needs to give a written comment and careful consideration as to how to help the child. Teacher will need to be very sesnitive to how she corrects him.

19. FEELINGS

Λ child is highly expressive and/or articulate in communicating feelings.

O child shows range of feelings as are appropriate to a range of different experiences in the kindergarten, is able to express feelings both verbally and non-verbally.

V child does not show range of feelings as appropriate to different situations, does not express feelings openly. Be careful to take differences in cultural expectations into account.

T child is consistently unhappy, withdrawn, angry or otherwise causing concern to teacher. Teacher should discuss this concern with the child's parents.

20. INTERACTION

Λ child is outstanding in ability to initiate and lead group activities and is able to play alone at times.

O child can initiate contact with others, play as part of a group, respond to others in appropriate ways, and yet also able to play alone sometimes, can defend own rights without bullying others, can separate from parents for a few hours.

V child is dependent on others to initiate contact, or has difficulty working with others, or allows own rights to be trampled, or is aggressive with others, or is unable to play alone.

T child is unable to interact with other children in adaptive ways to a degree that causes the teacher to feel concern. Teacher may need to help child to learn better ways of interacting with others, or to discuss with parents whether child has worries.

INSTRUCTIONS FOR REVIEW

At end of year look through child's file and make a brief statement about what the child has gained during the kindergarten year.

Has child made developmental gains in vertical sense, e.g. moved on to higher stage in logico-mathematical knowledge?

Has child made developmental gains in a horizontal sense, e.g. learned to understand relationships across an increased range of materials and activities (décalage)?

Has child increased range of social knowledge, i.e. gained more information about the world we live in?

Has child increased skills, e.g. as in motor development, interaction with others?

A child may not gain in all these ways, but if no gains are apparent then teacher must question the value of her programme for this child.

It may be of particular value to involve the parents in this final review process. What do the parents think the child has gained during the kindergarten year? It is usual practice to interview parents where a child is not deemed ready for schook, that is, in the negative instance of a child not developing normally. It may be a very positive experience to interview the parents of the children who have made gains during the year.

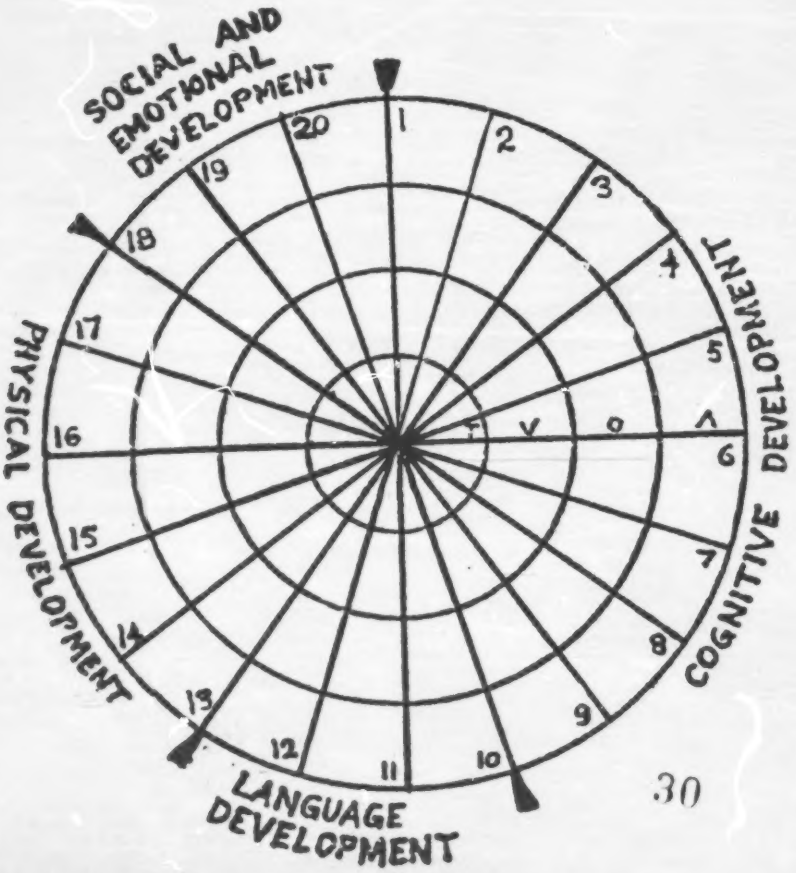
Use of the System

Scales are not objective and value free, but make judgements about children's progress against a normative standard. This requires both knowledge of the individual child, and knowledge of the normative standard. The categories are briefly described and are meant to be memory prompts rather than exhaustive descriptions.

The scale generated by the symbols O, V, Λ, T, is a nominal one, or more strictly set of separate nominal scales. However by ranking the categories:

Λ
O
V
T

we can generate an order. There are not equal intervals, that is, difference between O and Λ on self-concept scale has not been shown to be equivalent to the difference between O and Λ on the language use scale. However, if we make the assumption that "above average" in one area is essentially the same as "above average" in another, then a circular visual presentation can be drawn up to represent an individual child:



This can be coloured in according to the child's ratings. An advantage of the circular presentation is that it can be taken in at a glance. A disadvantage, though, is that this glance may be a little too global. A further disadvantage is that it is difficult in this presentation to grasp group patterns.

The vertical arrangement allows comparison across groups of children. By folding and juxtaposing different children's records a grid is formed so we can look along particular scales, say language development, and obtain data about a group of children.

		Child A	Child B	Child C
	SCALES	Term 1	Term 1	Term 1
COGNITIVE DEVELOPMENT	1. Play			
	2. Autonomy			
	3. Concentration			
	4. Properties of objects			
	5. Classification and seriation			
	6. Number concepts			
	7. Space and time			
	8. Moral reasoning			
	9. Social knowledge			
LANGUAGE DEVELOPMENT	10. Receptive			
	11. Expressive			
	12. Language use			
PHYSICAL DEVELOPMENT	13. Physical status			
	14. Gross motor			
	15. Fine motor			
	16. Visual			
	17. Auditory			
SOCIAL AND EMOTIONAL DEVELOPMENT	18. Self - Concept			
	19. Feelings			
	20. Interaction			

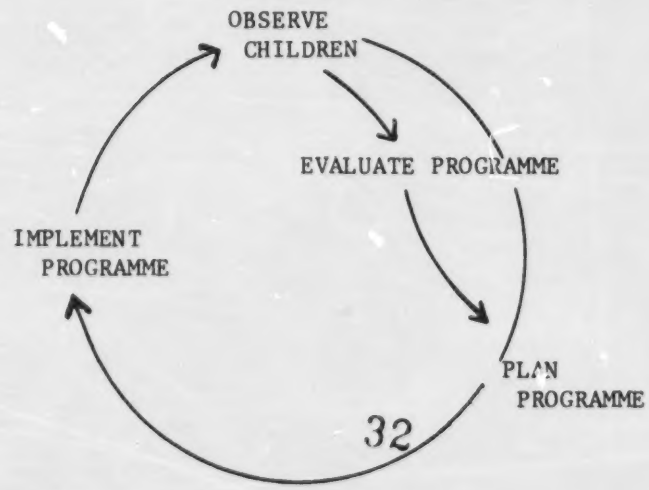
The system does not imply that teachers should try to bring all children to the 0 category on all scales. Rather the teacher may accept that each child has a different range of abilities. For example, if a child is clumsy the teacher may wish to spend extra time improving a child's co-ordination. On the other hand the teacher may decide to work on extending the child's language and building up his self concept. The decision will depend on an understanding of the child as a person. If a boy is becoming frustrated because he cannot execute his ideas, due to poor co-ordination then the teacher will do well to help in this area. If on the other hand the child experiences a sense of failure becuase he is not the "sporting hero" his father would like him to be the teacher to focus on extending his other strengths and building up his self-esteem.

That is, the data generated by the scales gives information to help the teacher make decisions, but it does not make the decisions for him or her

Where the symbols 0, $\wedge$, V occur the teacher's job is to extend the child, within the normal kindergarten programme, by setting up activities which can be carried out at different levels. For example, in asking children, "What does the postman do?" She allows one child to answer "bring letters", another to say, "comes", and yet another "delivers mail from the post office to your house". In the way she framed the question, the teacher catered for different levels of development in the children.

Where the symbol T occurs the teacher will need to consider what steps should be taken. This designates an area of developmental deviation, and hence a child with special need.

The function of observation and recording techniques in the educational process can be summarized in the terms of the following diagram.



Planning and evaluation may be on various time scales. For example a daily, fornightly or yearly plan may be mapped out for an individual of a group.

The records of individual children may be used to give information about:-

a) the relative strengths and weaknesses of an individual for planning or evaluation a programme.

b) the relative levels of a number of children for the purpose of organizing small group programmes.

c) the gains made by all the children across the year for the purpose of evaluation the total programme.

Looking across children the teacher can see if his or her programme has particular strengths or weaknesses, do the children tend to gain in the social area, for example, but to be insufficiently challenged in the area of logical thinking. This will bring up ideas for planning the next year.

An individual teacher may wish to alter the data system by:-

a) adding more scales. Remember, however, that one scale requires 50 children x a minimum of 3 observations = 150 observations.

b) deleting some scales.

c) altering the coding system, e.g. for a teacher with an interest in gifted children a further category of could be added, to indicate particularly advanced development.

d) altering the criteria for a particular scale. Experience with the scales will suggest where improvements could be made.

e) rating children on the scales less frequently e.g. twice per year instead of each term or more frequently.

Alterations should conform to the standards laid down in this paper. The background rationale and theory of measurement are provided so that the teacher has guidelines for developing an alternative approach to suit his or her particular situation.

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CHILD's NAME

APPENDIX 1 30/ INDIVIDUAL RECORD BOOK (IRB)

Date of Entry	
	Date of Birth: Entered kindergarten:
	Occupation: Father: Mother:
	Other members in family:
	Any special needs:
	Physical Description:
	Additional Information:

Child's Name:

PHYSICAL SKILLS	COGNITIVE SKILLS
PERCEPTUAL SKILLS	COMMUNICATION AND LANGUAGE SKILLS
INDEPENDENCE	IMAGINATION – CREATIVITY

Child's Name:

SOCIAL SKILLS	FEELINGS
CO-OPERATION AND CONSIDERATION	**SELF CONCEPT**
CONTRIBUTION	**ENDEAVOUR AND INQUIRY**

Child's Name: 33/

Date of Entry	Additional Information (Contd.):

APPENDIX 2

Relationship of scales to Piagetian classes of knowledge.

TYPE OF KNOWLEDGE

	SCALES	Physical	Social	Logico Mathematical
COGNITIVE DEVELOPMENT	1. Play	▨	▨	▨
	2. Autonomy	▨		▨
	3. Concentration	▨		▨
	4. Properties of objects	▨		▨
	5. Classification and seriation		▨	▨
	6. Number concepts			▨
	7. Space and time			▨
	8. Moral reasoning			▨
	9. Social knowledge		▨	
LANGUAGE DEVELOPMENT	10. Receptive		▨	
	11. Expressive		▨	
	12. Language use		▨	
PHYSICAL DEVELOPMENT	13. Physical status	▨		
	14. Gross motor	▨		
	15. Fine motor	▨		
	16. Visual	▨		
	17. Auditory	▨		
SOCIAL AND EMOTIONAL DEVELOPMENT	18. Self - Concept			▨
	19. Feelings			▨
	20. Interaction			▨

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